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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/617,834	07/14/2003	Koji Wakayama	H-1100 5217		
Mattingly Star	7590 02/21/2007 oger & Malur P C	EXAMINER			
Mattingly, Stanger & Malur, P.C. Suite 370			WONG, XAVIER S		
1800 Diagonal Alexandria, VA		ART UNIT	PAPER NUMBER		
Alexandria, V	1 22314	2609			
SHORTENED STATUTOR	RY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MC	NTHS	02/21/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

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			Application No. Applicant(s)					
Office Action Summary		10/617,8	34	WAKAYAMA ET AL.				
		Examine	,	Art Unit				
		Xavier Wo		2609				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>Three</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filled after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).								
Status								
1) 又	Responsive to communication(s) filed on	14 <sup>th</sup> July 2003.						
2a)□	·	This action is n	on-final.					
3)	Since this application is in condition for a	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.							
Dispositi	ion of Claims	,						
4)🖂	4)⊠ Claim(s) <u>1-16</u> is/are pending in the application.							
,	4a) Of the above claim(s) is/are withdrawn from consideration.							
5)	5) Claim(s) is/are allowed.							
6)⊠	S)⊠ Claim(s) <u>1-16</u> is/are rejected.							
7)	Claim(s) is/are objected to.							
8)	Claim(s) are subject to restriction	and/or election re	equirement.					
Applicati	on Papers							
9)[	The specification is objected to by the Exa	aminer.			·			
10)⊠ The drawing(s) filed on <u>14<sup>th</sup> July 2003</u> is/are: a)⊠ accepted or b)□ objected to by the Examiner.								
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).								
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.								
Priority u	ınder 35 U.S.C. § 119		•					
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:								
	1. Certified copies of the priority documents have been received.							
	2. Certified copies of the priority documents have been received in Application No							
	3. Copies of the certified copies of the	e priority docume	nts have been receive	d in this National	Stage			
	application from the International Bureau (PCT Rule 17.2(a)).							
* See the attached detailed Office action for a list of the certified copies not received.								
Attachmen	t(s)							
1) Notic	e of References Cited (PTO-892)		4) Interview Summary (					
	e of Draftsperson's Patent Drawing Review (PTO-94 nation Disclosure Statement(s) (PTO/SB/08)	48)	Paper No(s)/Mail Da					
Paper No(s)/Mail Date 14 <sup>th</sup> July 2003. 6) Other:								

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#### **DETAILED ACTION**

#### **Priority**

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

## Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "The apparatus of transmitting packets according to Claim 1, further comprising <u>said</u> plurality of statistic information collecting processor" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "...an extension function processor connected to <u>said</u> load balancing processor" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1-3, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139).

Consider claim 1, Gilbert et al. clearly show and disclose multiple network interfaces that receive and transmit packets (column 7 lines 7-57; claim 15; fig. 7); a Dynamic Extra Resource Pool Allocation device (DEPRA) that acts as a switch and has connection with interfaces (column 2 lines 29-46; fig. 1 & 7); with further connection with a statistic monitoring agent for monitoring the number of transmitted and received network packets (column 3 lines 24-37; claim 17 at column 10 lines 12-15; fig. 2), and further disclose that the system predicts future patterns of the number of transmitted and received packets according to the monitored number of transmitted and received packets by the monitoring agent through interfaces (claim 17 at column 10 lines 27-33).

However, Gilbert et al. did not disclose that the headers' information are analyzed for the packet counts.

In the same field of endeavor, **Fukumoto et al**. disclose a network monitor system that utilizes a line card comprising a counter unit to monitor the amount of packets during communication and determine an outgoing path with reference to a header (paragraphs *0010-0011*; *abstract*; claim *1*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus comprising means for analyzing header information imparted to said packets for packet counts as taught by **Fukumoto et al.**, in the apparatus of **Gilbert et al.**, for facilitating

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the transmission and receiving of packets by using the header as a centralized information center.

Consider claim 2, and as applied to claim 1, Gilbert et al., in view of Fukumoto et al., clearly disclose the claimed invention except the apparatus comprises means for analyzing header information for packet counts.

In the same field of endeavor, **Fukumoto et al**. also disclose a network monitor system that utilizes a line card comprising a *counter unit* to monitor the amount of packets during communication and determine an outgoing path with reference to a *header* (paragraphs *0010-0011*; *abstract*; claim *1*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that comprises means for analyzing header information for packet counts as taught by **Fukumoto et al.**, in the apparatus of **Gilbert et al.**, in order to facilitate the identification of packets other than relying solely on packet IP addresses.

Consider claim 3, and as applied to claim 1, Gilbert et al., in view of Fukumoto et al., clearly disclose the claimed invention except the apparatus further comprises a line card, connected to said plurality of interfaces, provided with said means for analyzing header information and said means for counting the amount of packets.

In the same field of endeavor, **Fukumoto et al**. disclose a network monitor system that utilizes a *line card* comprising a counter unit to monitor the amount of

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packets during communication and determine an outgoing path with reference to a header (paragraphs 0010-0011; abstract; claim 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that comprises a line card, connected to said plurality of interfaces, provided with said means for analyzing header information and said means for counting the amount of packets as taught by Fukumoto et al., in the apparatus of Gilbert et al., in order to facilitate the identification of packets in a separate information center without interfering with other functions of the system.

Consider claim 12, Gilbert et al. clearly show and disclose a method for multiple network interfaces to receive and transmit packets (column 7 lines 7-57; claim 1 & 15; fig. 7), as well as a method for a statistic monitoring agent to monitor the number of transmitted and received network packets (column 3 lines 24-37; claim 1,4,5 & 17; fig. 2), and further disclose that the method utilizes a system to predict future patterns of the number of transmitted and received packets according to the monitored number of transmitted and received packets by the monitoring agent (column 3 lines 38-45; claim 17 at column 10 lines 12-15; fig. 2 & 7).

However, Gilbert et al. did not disclose in the method that header information is analyzed for the packet counts.

In the same field of endeavor, Fukumoto et al. disclose a method for a network monitor system to utilize a line card comprising a counter unit to monitor the amount of

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. 2600

packets during communication and determine an outgoing path with reference to a header (paragraphs 0037-0038).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of a method with means for analyzing header information imparted to said packets; and selecting the interfaces for transmitting the packets as taught by **Fukumoto et al.**, in the apparatus of **Gilbert et al.**, in order to facilitate the transmission and receiving of packets by using the header as a centralized information center.

Consider claim **16**, **Gilbert et al**. clearly show and disclose multiple network interfaces that receive and transmit packets (column 7 lines 7-57; claim 15; fig. 7); a Dynamic Extra Resource Pool Allocation device (DEPRA) that acts as a switch and has connection with interfaces (column 2 lines 29-46; fig. 1 & 7); with further connection with a statistic monitoring agent for monitoring the number of transmitted and received network packets (column 3 lines 24-37; claim 1,4,5 & 17; fig. 2), and further disclose that the system predicts future patterns of the number of transmitted and received packets according to the monitored number of transmitted and received packets by the monitoring agent (claim 17 at column 10 lines 27-33).

However, **Gilbert et al**. did not disclose that the headers' information are analyzed for the packet counts or that a switch is connected to the interfaces.

In the same field of endeavor, **Fukumoto et al**. disclose a network monitor system that utilizes a line card comprising a *counter unit* to monitor the amount of

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packets during communication and determine an outgoing path with reference to a header (paragraph 0038; claim 1) and the monitor itself comprises a switch (therefore, justifies a connection) that are linked with the plurality of line cards with the line cards acting as interfaces to transmit packets out to the network (paragraph 0037).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus comprising means for analyzing header information imparted to said packets; counting an amount of packets to be transmitted or received through the interfaces, and selecting an interface for transmitting the packet on the basis of the amount of packets counted as taught by Fukumoto et al., in the apparatus of Gilbert et al., for facilitating the transmission and receiving of packets other than relying solely on packet IP addresses.

Claims 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139), as applied to claim 1 above, and in further view of Manning (U.S. Patent 6,473,400).

Consider claim 4, and as applied to claim 1 above, Gilbert et al., as modified by Fukumoto et al., clearly show and disclose the claimed invention except that the apparatus comprise a bus that directly connects the interfaces and statistic information collecting processor.

In the same field of endeavor, **Manning** disclose a packet processing device 2, which utilizes data from RMON table 7 (a statistic collector) through analyzer 6, are directly connected to a plurality of ports/interfaces 1 through a bus (column 3 lines 26-45; fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that comprises a bus for directly connecting interfaces and a statistic information collecting processor as taught by **Manning**, in the apparatus of **Gilbert et al.**, as modified by **Fukumoto et al.**, in order to access packet information more rapidly.

Consider claim 10, and as applied to claim 3 above, Gilbert et al., as modified by Fukumoto et al., clearly show and disclose the claimed invention except that the apparatus comprise a table that corresponds between the packet of the received packet and destination of the packet.

In the same field of endeavor, **Manning** discloses a RMON1 matrix table that has stored source and destination addresses of traffic flows (column 5 lines 32-39; fig. 3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that contains a table that stores information from a received packet and destination as taught by **Manning**, in the apparatus of **Gilbert et al.**, as modified by **Fukumoto et al.**, in order to match the packets sources and destinations.

table data is renewable.

Consider claim 11, and as applied to claim 10 above, Gilbert et al., as modified by Fukumoto et al., clearly show and disclose the claimed invention except that the

In the same field of endeavor, **Manning** clearly discloses that the RMON table can be updated if further data samples are acquired (column *5* lines *40-50*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that the table is renewable as taught by **Manning**, in the apparatus of **Gilbert et al.**, as modified by **Fukumoto et al.**, in order to maintain the newest packet information in record.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139), as applied to claim 1 above, and in further view of Born (U.S Patent 6,631,484).

Consider claim 5, and as applied to claim 1 above, Gilbert et al., as modified by Fukumoto et al., clearly show and disclose the claimed invention except wherein the interfaces have means for storing, in a frame, at least a portion of a header imparted to at least one or more packets.

In the same field of endeavor, **Born** discloses an interface apparatus that comprises packet storage/memory in a FIFO stack (column 7 lines 9-20; claims 29 & 31) and storing header in the FIFO stack (column 9 lines 38-49; claim 41).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that has the capability to store header information as taught by **Born**, in the apparatus of **Gilbert et al**. as modified by **Fukumoto et al**., in order to facilitate the extraction of packet information.

Claims 6, 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139) and in further view of Born (U.S Patent 6,631,484), as applied to claim 5 and 12 above, and in further view of Agarwal et al. (U.S Patent 6,8191658 B1).

Consider claim 6, and as applied to claim 5 above, Gilbert et al. in view of

Fukumoto et al. and in further view of Born clearly show and disclose the claimed

invention above except headers that are to be multiplexed into a frame have equal size.

In the same field of endeavor, **Agarwal et al.** disclose headers, all one byte (same size), are applied to data in packets and forwarded to a modem at a terminal (multiplexed into a specific site) (column *11* lines *61-67* & column *12* lines *1-16*; fig. *11A*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that multiplexes/gathers headers (along with their respective packets) to a terminal as taught

by **Agarwal et al.**, in the apparatus of **Gilbert et al.**, as modified by **Fukumoto et al.** and **Born**, in order to correctly identify the destinations of the packets.

Consider claim 7, and as applied to claim 5 above, Gilbert et al. in view of Fukumoto et al. and in further view of Born clearly show and disclose the claimed invention above except that means for multiplexing determines length of a header portion to be extracted from a plurality of packets in response to information indicating classification of the packets and that the packets are to be multiplexed into one frame.

In the same field of endeavor, **Agarwal et al.** disclose an apparatus that is able to distinguish header sizes, which are of 1 byte and 3 bytes respectively for SAR1 and SAR2 classification packets; and the extraction of the headers (column *11* lines *61-67* & column *12* lines *1-17*; fig. *11A*). The headers are then being sent (multiplexed) into a single terminal (column *12* lines *25-29*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that comprises means for multiplexing determines length of a header portion to be extracted from a plurality of packets in response to information indicating classification of the packets and that the packets are to be multiplexed into one frame as taught by **Agarwal et al.**, in the apparatus of **Gilbert et al.**, as modified by **Fukumoto et al.** and **Born**, in order to correctly identify each of the packets.

Consider claim 13, and as applied to claim 12 above, Gilbert et al. in view of Fukumoto et al., and in further view of Born, clearly show and disclose the claimed invention above except the multiplexing of header information into a frame.

In the same field of endeavor, **Agarwal et al.** disclose headers, all of one byte (same size), are applied to data in packets and forwarded to a modem at a terminal (multiplexed into a specific site) (column 11 lines 61-67 & column 12 lines 1-16; fig. 11A).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of a method that multiplexes/gathers headers (along with their respective packets) to a terminal as taught by **Agarwal et al.**, in the apparatus of **Gilbert et al.**, as modified by **Fukumoto et al.** and **Born**, in order to correctly identify the destinations of the packets.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139), as applied to claim 1 above, and in further view of Chiussi et al. (U.S Patent 7,027,457).

Consider claim 8, and as applied to claim 1 above, Gilbert et al., as modified by Fukumoto et al., clearly show and disclose the claimed invention except the apparatus comprises a plurality of statistic information collecting processors.

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In the same field of endeavor, **Chiussi et al**. disclose a plurality of packet counters (230-CNT, 240-CNT, 330-CNT, etc.) monitors the number of data packets in a traffic flow (column 9 lines 26-56 & column 14 lines 41-56; fig. 2,6 & 8), which is essentially the function of the claimed statistic information collecting processor.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an apparatus that comprises a plurality of processors that collect packet statistical data as taught by Chiussi et al., in the apparatus of Gilbert et al. as modified by Fukumoto et al., in order to identify bottlenecks in a network.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139), as applied to claim 1 above, and in further view of Muller et al. (U.S Patent 6,016,310).

Consider claim 9, and applied to claim 1 above, Gilbert et al., as modified by

Fukumoto et al., clearly show and disclose the claimed invention except the extension function processor is connected to a load balancing processor and that the extension function processor performs at a higher layer than the layer on which a packet is received.

In the same field of endeavor, **Muller et al.** disclose a network device that comprises a Multi-Layer Distributed Network Element (MLDNE) that is configured to handle message traffic using TCP and IP protocols (layers 4 and 3) over Ethernet LAN standard and MAC data link layers (column 3 lines 43-53) while messages/packets are

received at a network interface at physical layer 1 input ports (column 5 lines 3-22). The network device also performs load balancing on certain packets (column 11 lines 11-58; claim 23 & 27), therefore, justifying that a load balancing device has direct connection with the MLDNE.

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of an extension function processor (MLDNE embodied in network device) is connected to a load balancing functionality (also embodied in network device) and that the extension function processor performs at a higher layer than the layer on which a packet is received as taught by **Muller et al.**, in the method of **Gilbert et al.**, as modified by **Fukumoto et al.**, in order to distinguish different types of packets being received and transmitted.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilbert et al. (U.S Patent 6,771,595 B1) in view of Fukumoto et al. (U.S Pub 2003/0012139), and in further view of Agarwal et al. (U.S Patent 6,819,658), as applied to claim 13 above, and in further view of Kojima (JP 2001-160832).

Consider claim 14, and as applied to claim 1 above, Gilbert et al., as modified by Fukumoto et al. and in further view of Agarwal et al., clearly show and disclose the claimed invention except wherein extracting only a portion of the header from received packet.

In the same field of endeavor, **Kojima** discloses the extraction of only the signal component (a portion of the header) of each frame in serial data (*Abstract*).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of a method to extract only a portion of the header, as taught by **Kojima**, in the apparatus of **Gilbert et al**. as modified by **Fukumoto et al**. and **Agarwal et al**., for the purpose of signal alignment.

Consider claim 15, and as applied to claim 14 above, Gilbert et al., as modified by Fukumoto et al. and in further view of Agarwal et al., and in further view of Kojima clearly show and disclose the claimed invention except a method to indicate classification of packet set to a header to be imparted to each of the packets.

Agarwal et al. also disclose a method to distinguish header sizes, which are of 1 byte and 3 bytes respectively for SAR1 and SAR2 classification packets and the extraction of the headers (column 11 lines 61-67 & column 12 lines 1-17; fig. 11A). The headers are then being sent (multiplexed) into a single terminal (column 12 lines 25-29).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of a method that further comprise a step of extracting a header of said received packet only by a size corresponding to information indicating classification of said packet set to a header to be imparted to each of said packets as taught by **Agarwal et al.**, in the method of **Gilbert et al.**, as modified by **Fukumoto et al.** and **Kojima**, in order to identify packets with their corresponding headers correctly.

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Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Xavier Wong whose telephone number is (571) 270-

1780. The examiner can normally be reached on Monday through Friday 8 am - 5 pm

(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone

number for the organization where this application or proceeding is assigned is (571)

273-8300.

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Xavier Szewai Wong X.S.W/x.s.w 7<sup>th</sup> February 2007

SUPERVISORY PATENT EXAMINER

2/15/07